Welding ITAG Endorsement Survey

1. Respondent Information

Please complete the survey online by May 19, 2023.

The purpose of this survey is to collect responses from Ohio public institutions of higher education regarding proposed alignments of learning outcomes and awarding of credit hours for the Industry Recognized Credential Transfer Assurance Guide (ITAG) for Welding. In this survey, we are asking respondents to read the proposed ITAG template. The proposed ITAG would establish a set of statewide learning outcomes for Basic and Advanced Shielded Metal Arc Welding (SMAW) courses at Ohio's public colleges and universities. The template lists the proposed learning outcomes in the left-hand column. The aligned standards from the credential appear in the right-hand column.

If approved, the ITAG would allow students who hold both an American Welding Society (AWS) D1.1 1" Plate 3G qualification or certification and an AWS D1.1 1" 4G SMAW qualification or certification to be awarded 6 credit hours toward one or more equivalent courses, regardless of where the education/training occurred. Those seeking credit would be required to pass both an AWS D1.1 Structural Welding Code 3G Plate Test and an AWS D1.1 Structural Welding Code 4G Plate Test and to provide verification of their qualifications or certifications by means of an up-to-date continuity record or wallet card obtained from an employer, Qualification Testing Facility, Accredited Test Facility, or the American Welding Society.

We ask that **one representative** submit a single response to this survey on behalf of your institution as soon as possible, but no later than **May 19, 2023**. Please share this survey with the person most familiar with the content and subject matter. Following statewide endorsement, a formal announcement will be sent out.

Ryan Eubank, Lakeland Community College, is the lead faculty expert on the ITAG panel. Specific questions relevant to the content components of the alignment can be addressed to Ryan at reubank@lakelandcc.edu with a carbon copy to Dr. Ben Parrot (BParrot@highered.ohio.gov).

Survey responses left in the form of comments will also be reviewed by the members of the ITAG panel.

We thank you in advance for your valuable input.

* 1. Demographic Information about the person completing this survey

Name	
Institution	
Department	
Title	
E-mail	
Phone	

* 2. Please indicate the type of institution that you represent

- [ ] University
- [ ] Regional Campus
- [ ] Community College

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2. Welding Program

* 3. Does your institution have a welding program?

- ◯ Yes
- ◯ No

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3. Welding Program

* 4. Select all of the types of welding programs your institution offers.

- [ ] Certificate
- [ ] Associate Degree
- [ ] Bachelor's Degree

4. Basic and Advanced Shielded Metal Arc Welding (SMAW)

Proposed Course Name: Basic and Advanced Shielded Metal Arc Welding (SMAW)

Proposed Credit Hours: 6

Proposed Course Description: These courses cover introductory and advanced welding concepts of design, set-up, trouble shooting, and the techniques to produce acceptable fillet and groove welds. Focus is on flat, horizontal, vertical, and overhead positions required to pass a 3G and 4G welder Certification or Qualification test using the SMAW process.

Proposed Learning Outcomes:
1. Set the machine controls for the transformer, rectifier, and motor generator power sources required to produce a fillet and groove weld in the vertical and overhead positions.
2. Produce vertical up (3F) and overhead (4F) welds to AWS standards, using E7018 electrodes, while employing proper techniques and settings.
3. Produce vertical fillet (3F) welds to AWS standards, using E6010 electrodes, while employing proper techniques and settings.
4. Produce vertical up and overhead 1" V-Groove test plates, using E7018 electrodes.
5. Demonstrate an understanding of the difference in techniques used when welding in the vertical and overhead welding positions compared to the flat and horizontal positions.
6. Demonstrate the ability to use standard measuring instruments to lay-out a component part, or assemble a weldment, based on a shop drawing or print.
7. Demonstrate and understanding of the tests used by AWS to qualify welders for making welds in the 3G and 4G positions.
8. Demonstrate proficiency in the SMAW process in the 3F, 4F, 3G, and 4G positions by producing weld test plates. These plates must meet the applicable AWS bend test requirements as taken from the plates prepared and tested by the instructor.

* 5. Does your institution offer a course or courses similar to the proposed "Basic and Advanced Shielded Metal Arc Welding (SMAW)" ITAG course?

- ◯ Yes
- ◯ No

5. Basic and Advanced Shielded Metal Arc Welding (SMAW)

* 6. Please list the course name(s), number(s), and credit hours for your Basic and Advanced Shielded Metal Arc Welding (SMAW) course(s).

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6. Learning Outcomes

For the proposed ITAG course, "Basic and Advanced Shielded Metal Arc Welding (SMAW)", please indicate next to each learning outcome whether you believe it should be included and whether it is an essential learning outcome.

* 7. The learning outcomes are listed individually below. Please review for content and evaluate whether each learning outcome should be considered essential for this course.

	Yes, and should be essential	Yes, but not essential	Not a necessary learning outcome for this course.
1. Set the machine controls for the transformer, rectifier, and motor generator power sources required to produce a fillet and groove weld in the vertical and overhead positions.	○	○	○
2. Produce vertical up (3F) and overhead (4F) welds to AWS standards, using E7018 electrodes, while employing proper techniques and settings.	○	○	○
3. Produce vertical fillet (3F) welds to AWS standards, using E6010 electrodes, while employing proper techniques and settings.	○	○	○
4. Produce vertical up and overhead 1" V-Groove test plates, using E7018 electrodes.	○	○	○
5. Demonstrate an understanding of the difference in techniques used when welding in the vertical and overhead welding positions compared to the flat and horizontal positions.	○	○	○
6. Demonstrate the			

ability to use standard measuring instruments to lay-out a component part, or assemble a weldment, based on a shop drawing or print.	○	○	○
7. Demonstrate and understanding of the tests used by AWS to qualify welders for making welds in the 3G and 4G positions.	○	○	○
8. Demonstrate proficiency in the SMAW process in the 3F, 4F, 3G, and 4G positions by producing weld test plates. These plates must meet the applicable AWS bend test requirements as taken from the plates prepared and tested by the instructor.	○	○	○

7. Alignment

Please read through the template below.

Credential Name:	AWS D1.1 1" Plate 3G and 4G SMAW
Credential Type:	☑ Certification ☑ Qualification ☐ License
Issuer of Credential:	American Welding Society or other Qualification Testing Facility
Frequency of Updates:	As per AWS, every 6 months unless actively using the process in the field of welding
Exam(s) Required:	Practical welding test
Additional Requirements:	
Current CTAG/TAG: (if applicable)	No current applicable CTAG/TAG
Description of content to be evaluated and aligned: Proper use of machine settings, material prep, weld fitment, visual acceptance criteria, and destructive testing according to AWS D1.1 Structural Welding Code Latest Edition. The testing position will be 3G vertical up and 4G overhead.	
How long after attainment can credit be awarded?	Indefinitely, as long as the process has been used and verified within the last 6 months
How can receiving institutions verify credential attainment?	Provide an up-to-date continuity record or wallet card. The document must be obtained from an employer, Qualification Testing Facility, an Accredited Test Facility, or the American Welding Society

Course Name: Basic and Advanced Shielded Metal Arc Welding (SMAW)

Credit Hours: 6

Course Description: These courses cover introductory and advanced welding concepts of design, set-up, trouble shooting, and the techniques to produce acceptable fillet and groove welds. Focus is on flat, horizontal, vertical, and overhead positions required to pass a 3G and 4G welder Certification or Qualification test using the SMAW process.

Upon completion of this two-course sequence, students will be able to:

Postsecondary Learning Outcomes	Content from Credential
1. Set the machine controls for the transformer, rectifier, and motor generator power sources required to produce a fillet and groove weld in the vertical and overhead positions.	Students will demonstrate proficiency and understanding on setting essential variables on a welding machine from a WPS (welding procedure specifications) in order to complete an AWS D1.1 Structural Welding Code 3G Plate Test and 4G Plate Test.
2. Produce vertical up (3F) and overhead (4F) welds to AWS standards, using E7018 electrodes, while employing proper techniques and settings.	AWS states a 3G Plate Test and 4G Plate Test covers all electrodes and 1F, 2F, 3F, and 4F positions.
3. Produce vertical fillet (3F) welds to AWS standards, using E6010 electrodes, while employing proper techniques and settings.	AWS states a F-4 Group (low hydrogen) 3G Plate Test and 4G Plate Test covers all electrodes and 1F, 2F, 3F, and 4F positions.
4. Produce vertical up and overhead 1" V-Groove test plates, using E7018 electrodes.	AWS states a F-4 Group (low hydrogen) 3G Plate Test and 4G Plate Test cover unlimited plate thickness for testing.
5. Demonstrate an understanding of the difference in techniques used when welding in the vertical and overhead welding positions compared to the flat and horizontal positions.	Welders are taught Vertical and Overhead Weld techniques. Assessment of these techniques is included in the 3G Plate Test and 4G Plate Test. Competency in flat and horizontal positions is expected when a student passes the 3G Plate Test and 4G Plate Test.
6. Demonstrate the ability to use standard measuring instruments to lay-out a component part, or assemble a weldment, based on a shop drawing or print.	D1.1 plate tests require a specific layout as documented by the relevant prints.
7. Demonstrate and understanding of the tests used by AWS to qualify welders for making welds in the 3G and 4G positions.	A qualified welder must understand the specifics of a plate test, the testing criteria, and the relevant weld procedures for the 3G and 4G positions.
8. Demonstrate proficiency in the SMAW process in the 3F, 4F, 3G, and 4G positions by producing weld test plates. These plates must meet the applicable AWS bend test requirements as taken from the plates prepared and tested by the instructor.	This credential/qualification covers the 3G Plate Test and 4G Plate Test standard. As per AWS D1.1, the 3G Plate Test and 4G Plate Test also cover 1G, 2G, 1F, 2F, 3F, and 4F positions.

* 8. Do you agree that the content from the credential listed in the right-hand column aligns with the learning outcomes listed in the left-hand column that were taken from the proposed Basic and Advanced Shielded Metal Arc Welding (SMAW) course?

- ◯ Yes
- ◯ No

If you feel there was a major omission in the content to support a learning outcome, please indicate.

* 9. Do you support the awarding of 6 credit hours toward the course(s) you listed in Question 6 for students who provide current proof of passing the AWS D1.1 1” Plate 3G and 4G SMAW practical welding tests, regardless of where the student learned the content to pass the test?

- ◯ Yes
- ◯ No

If no, please explain.

* 10. Do you support the creation of an ITAG for Welding?

- ◯ Yes
- ◯ No

If no, please explain.

8. Additional Comments

11. Are there additional comments that you would like to make about the proposed ITAG in Welding?

9. Thank You!

Thank you for completing this survey.

If you have any questions regarding this survey, please contact Dr. Ben Parrot at BParrot@highered.ohio.gov.